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ABSTRACT

Rural schools in the western region states of California, Arizona, Utah, and Nevada are facing enormous challenges due to major shifts in the demographics of the region. Rapid growth in student enrollment, particularly of minority and limited English proficient students, the increasing rate of rural poverty and homelessness, and a projected teacher shortage, are only a few of the pressing problems which are stretching the limits of the "make-do" attitude prevalent in rural communities. To respond to the challenge, the Rural Schools Assistance Program was organized in 1987 to: (1) identify, gather, and disseminate information about programs, practices, and resources to rural, small schools in the region; (2) develop and strengthen networks of rural education service providers in the region; and (3) provide or broker technical assistance services to rural, small schools. This report evaluates the program based on interviews with the project participants from the four states. The program has hosted a wide variety of workshops and a regional conference on issues related to rural schools, developed and disseminated numerous research briefs and resource materials about promising rural practices, and conducted collaborative technical assistance projects in all four states in the region. These projects focused on interventions which improve rural staff development, enhance rural schools' ability to offer coursework, improve the performance of rural at-risk students, and help rural schools organize for school improvement. The measure of success for the projects is the assessment by participants in rural improvement consortia of the program. Appendixes include summaries of interviews with the project participants, student evaluations of distance learning, and evaluation of three workshop. (ALL)

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Rural Initiative

EVALUATION OF THE RURAL SCHOOLS ASSISTANCE PROGRAM

August 1990

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FAR WEST LABORATORY

Rural Initiative

Evaluation of the Rural Schools Assistance Program

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Abstract

Rural Schools in the western region are facing enormous challenges due to major shifts in the demographics of the region. Rapid growth in student enrollment, particularly minority and limited English proficient students, increasing rate of rural poverty and homelessness, and a projected teacher shortage are stretching the limits of the "make-do" attitude prevalent in rural communities.

To respond to the challenge, Far West Laboratory's Rural Schools Assistance Program is organized to:

- Identify, gather, and disseminate information about programs, practices, and resources to rural, small schools in the region;
- Develop and strengthen networks of rural education service providers in the region in order to increase their capacity for providing services to rural, small schools;
- Provide or broker technical assistance services to rural, small schools.

Since the inception of the program in 1987, the Rural Schools Assistance program has hosted a wide variety of workshops and a regional conference on Issues for Rural Schools, developed and disseminated numerous research briefs and resource materials about promising rural practices, and conducted collaborative technical assistance projects in all four states in the region. These projects focused on interventions which improve rural staff development, enhance rural schools' ability to offer coursework, improve the performance of rural at-risk students, and help rural schools organize for school improvement.

Feedback from the field as well as our third-party evaluation indicate that our efforts have made a difference. As a result of our work, many rural schools and rural educational agencies in the region have been able to make much needed improvements. For example, Lander County, NV now has a K-12 science curriculum it didn't have before; West Desert High School and others like it in Utah's remote Great Basin region can now provide courses needed for graduation. But beyond the tangible curriculum guides, course offerings and teaching units, is the realization in rural schools that educators are better connected with local and regional resources, that cadres of trained staff now exist who can serve as resources to others - in short, the evidence substantiates our belief that we have effectively helped rural, small schools improve their own capacity for improvement.

The Laboratory's commitment to rural schools continues. A strong rural program of work has been offered in our OERI proposal (1990-1995) to continue to operate as the regional educational laboratory for the western region.

I. RURAL SCHOOLS PRIORITIES IN THE FAR WEST REGION

Until very recently the pressing needs of America's rural schools have attracted little political or professional attention. Our national educational concerns—low achievement scores, high dropout rate, teacher preparation and retention, school violence and substance abuse—have long been viewed as urban problems, requiring urban solutions. Yet today, this tradition of rural neglect is challenged by the fact that nearly one third of America's school children and half of its poor families live outside the country's designated urban areas. Of the 1,300 districts in our Western Region, 12 percent have enrollments under 100; 28 percent under 300; 50 percent under 1,000; and 69 percent under 2,500. The National Census defines over half of these as rural.

Regional Characteristics and Demographic Conditions.

The educational systems in the Western Region are remarkably diverse. Of the nearly six million students attending public schools in the region, 80 percent are enrolled in over 1,000 school districts in California. The remaining 20 percent are scattered across three states: Arizona with 7 percent, Utah with 10 percent, and Nevada, whose 3 percent of the region's enrollments totals 172,152 students—about half of the public school enrollment in Maricopa County (Phoenix), AZ.

While almost half the region's 1,300 districts are rural, and nearly 70 percent are small, they vary considerably in the ways they are funded, their administrative structure, geographic barriers to services, ethnic composition, languages spoken, degree of poverty, extent of collaboration with other agencies, and improvement capacity. (Berliner, Brown & Coe, 1989) Amid this diversity, certain region-wide trends and conditions also come to bear on the delivery of educational services to small and rural school.

Over the next several years, the Western Region will continue to confront some of the largest student population increases in the nation. Growth in Nevada and Arizona is over three times higher than the national average. One hundred thousand students per year between now and 1995 will be added to California's K-12 population. Increases in student enrollment are disproportionately high among racial and ethnic minority students, particularly in California and

Arizona. The minority student population in California has almost doubled in recent years, rising from 25 percent in 1967 to 51 percent in 1990 and resulting in large numbers of students with limited proficiency in English. By the year 2000, Arizona foresees the majority of its population under 30 consisting of linguistic and ethnic minorities. During the past six years, enrollment of Hispanic students in the region as a whole increased more than 27 percent and Asian enrollment grew by a remarkable 58.5 percent. In Arizona, Native American enrollment nearly doubled. At present, nearly a third (27 percent) of the nation's school-age children who speak a language other than English at home are concentrated in the Western Region.

Almost half of the poor in America are children, and poverty among school-age children in the rural Western Region is on the rise. Between 1979 and 1987, Nevada showed a 52 percent increase in the number of children living below the poverty level; California had an increase of 41 percent, followed by Arizona at 28 percent and Utah at 23 percent. Given that boom-bust cycles are characteristic of many industries in the region (mining, lumber, gaming), the fear of temporary poverty is real for many families who move from town to town following employment opportunities in efforts to avoid spells of poverty.

These demographic and economic conditions pose severe problems for schools seeking to provide qualified bilingual teachers and to accommodate student differences in achievement levels. High proportions of impoverished and minority students are at risk of dropping out and failing, a problem not confined to large cities. In central California counties like San Benito, for example, dropout rates among Hispanics are above 40 percent. Arizona's dropout rate of over 35 percent is particularly high among Hispanics in rural communities southeast of Phoenix, such as Globe, Miami, and Solomonville; in mining towns along the Arizona-New Mexico border, and migrant communities near the Mexican border. Schools on Indian reservations often report dropout rates as high as 80 percent.

These conditions are exacerbated by the relative decline of educational expenditures. Economic growth in the region has not translated into more dollars for the schools. Since 1982, education expenditures as a percent of income per capita have dropped in all four states in the region. Per pupil expenditures in 1988 in Nevada, Arizona, and Utah are now at the bottom of

the national ranking (ranked 40th, 43rd and 51st) and teacher salaries in these states are below the national average.

In the Western Region, as in many other parts of the country, large numbers of educators will soon be retiring. Nearly half the region's teachers and principals must be replaced over the next ten years. California will require 85,000 new teachers by the mid-1990s due to attrition and swelling enrollments; Utah projects a shortfall of 8,200 teachers by 1990; and Arizona and Nevada project proportionately similar shortages. This compounds the already difficult problem of recruitment and retention in the region's rural and small schools. Low salaries, the enormous curricular challenge of having to juggle more than one subject and teach more than one grade, the absence of support services and professional development opportunities—all make it difficult to compete with larger, more urban schools in attracting and keeping qualified teachers. For this same reason, it is also difficult to keep administrators, who often must wear several hats and are usually overworked trying to coordinate curricula, manage government paperwork, provide educational leadership, and teach or coach when necessary.

Many of the difficulties facing small, rural schools in the Western Region are rooted in geography. The inherent isolation and population sparsity of rural areas hinder communication of every kind with colleagues in neighboring schools, other districts and agencies, and the nearest population centers. Isolation denies teachers access to colleagues, fresh ideas, inservice training, and other support services.

Small, rural schools in Arizona, California, Nevada and Utah continue to grapple with problems faced by rural educators in most parts of the country: inadequate resources because of small tax revenue and relatively low apportionments of state and federal funds, lack of personnel and support services, and difficulty in offering essential courses. Yet other challenges, such as growing numbers of limited English proficient and at-risk students, are more particular to conditions in our region.

Regional Priorities

In setting regional priorities, we at Far West Laboratory (FWL) have drawn on knowledge built over 25 years of serving this region; on findings from our extensive 1985 needs assessment effort (conducted in preparation for the regional laboratory competition); on findings of an interlaboratory needs assessment of rural schools in 1988; (National Rural Schools Task Force Report 1988); on information gathered at the "Looking Ahead to the Year 2000: Issues for Rural Schools" Conference hosted by FWL in spring 1989; on an updated needs assessment conducted in 1989-1990. Moreover, our three years of successfully assisting rural schools under the Rural Initiative have broadened and confirmed our understanding of their needs.

Priorities for rural schools in FWL's region are:

1. **Improving curriculum offerings.** Finding affordable ways to expand and augment school curricula is a pressing concern of rural educators throughout the Western Region, especially in the sparsely populated areas of Arizona, Nevada and Utah. The inherent small size of remote schools restricts the scope of course offerings because of limited faculty and resources. For a high school of 100 or fewer to offer the necessary (i.e., state-approved) course of study, its teachers must handle several content areas, requiring four, five or six preparations each day. About a third of Utah's rural schools can offer chemistry and physics only during alternate years, with no third unit for college preparation; forty percent will not be able to offer the language courses required for college entrance. A recent status report shows that in 13 of Utah's 25 smallest schools, one third or more of the faculty teach subjects for which they are not academically prepared, and nearly 30 percent of teachers are carrying three or more non-teaching assignments. Rural educators in Arizona and Nevada face a similar challenge in trying to provide coursework essential for college preparation when just meeting state graduation requirements is often a struggle.

2. **Improving performance levels of rural, poor students.** This region-wide concern takes a variety of forms, depending on local conditions. In Utah, lower achievement of rural students is associated with stressed local economies that result in minimal education funding. In Arizona and California, social status or cultural background tend to influence achievement levels, so that concern is focused on at-risk youths. Just as in urban districts, such youths include high school

dropouts, low achievers, poor attenders, teenage parents, and drug and alcohol abusers. Factors closely associated with at-risk conditions are poverty, limited-English proficiency, family structure, and ethnicity. In the rural Central Valley of California, for example, it is not uncommon to see dropout rates as high as 40 percent, or to find that 15-20 percent of high school freshmen are kept back to repeat the grade. Schools in such communities need better access to information and resources on model dropout prevention and recovery programs. They also need assistance in developing interventions appropriate to their student populations.

3. Redefining professional roles. Administrators and teachers are being called upon to assume new and expanded roles. Administrators are no longer simply managers, but active instructional leaders, and programs such as the California School leadership Academy, Utah's Project LEAD and FWL's own Peer-Assisted Leadership (PAL) are fostering that shift. In each of our states, teachers are emerging from their individual classrooms to participate in a broader repertoire of professional responsibilities. Supporting the change are school structures such as Arizona's and Utah's Career Ladder, California's Mentor Teacher Program, and Nevada's Network of Professional Development Centers. This sweeping effort to redefine professional roles must consider distinctions between rural and urban schools, since many rural administrators already assume multiple roles, and rural teachers often have more daily preparations and extracurricular responsibilities than their urban colleagues.

4. Helping rural schools organize for school improvement. In the current push for reform, rural educators in all four states face the twin challenges of declining resources and increasing demands for program accountability. California has developed state curriculum frameworks and model curriculum standards for high schools, as well as model curriculum guides for elementary schools. The Arizona Department of Education recently completed an Essential Skills List for Language Arts K-12 and is in the process of defining similar requirements in math and science. The Nevada State Department of Education has in place curriculum Course of Study frameworks, and Utah recently established new Core Curriculum Standards for all grades.

Rural educators typically lack the necessary expertise and time to develop plans for meeting these state-mandated requirements, and this lack is significant worry to them. Recognizing that cycles of curriculum planning and evaluation are ongoing—particularly in

science, math and language arts-small, rural districts want help to develop a manageable and effective way to construct a curriculum reflecting local goals and values while also complying with state requirements.

5. Strengthening school/community collaboration. Throughout the region, educators are gearing up to examine the relationship of schools with other community agencies which offer services to students. Diversity is on the rise throughout the region. And increased enrollments and larger numbers of transient students in mining and agricultural areas mean more students hampered in their ability to learn due to needs for health care, nutrition, housing, or social services. The gold-mining town of Elko, Nevada, has seen its enrollment grow by 12 percent in each of the past two years; the district can barely build enough portable classrooms to house students. A school bus stopped at local campgrounds to transport those living in tents and cars. Many were given shoes and immunizations so they could attend school.

Rural districts are also seeing increased numbers of non-English speaking students. This language barrier, particularly when combined with poverty, strains the schools' ability to provide a quality education. One out of four immigrants to the U.S. settles in California, large numbers in rural counties. In the stat's 14 Sacramento-San Joaquin Valley counties, nearly 20 percent of students are limited English proficient and living below the poverty level. In Arizona, 16 percent of students have a primary home language other than English; in some rural counties, however, that figure is as high as 55 percent (Apache County) and 82 percent (Santa Cruz County).

To avoid duplication of effort and to stretch scarce resources, schools are seeking ways to cooperate and collaborate with community agencies. Rural schools, because of their close ties with the community, are particularly fertile grounds for such interagency experimentation.

II. ADDRESSING REGIONAL PRIORITIES

The laboratory's Rural Schools Assistance Program is organized to address these regional priorities. Objectives of the program are:

1) To identify, gather, and disseminate information about programs, practices, and resources to rural and small schools in the region.

2) To develop and strengthen networks of rural education service providers in the region in order to increase their capacity for providing services to rural and small schools.

3) To provide or broker technical assistance services to rural and small schools in the region for planning and implementing improvement activities.

Approach to Assisting Rural Schools

Our approach to working with rural schools in the region is guided by the work of other rural researchers and service providers (King, 1988; Cole, 1988; Barker, 1986; Hlege, 1985), by lessons learned in providing assistance to schools over the past 25 years and by a keen understanding of the rural school improvement context. Several operating principles underlie what we do.

Solving Local Problems. Local practitioners must be directly involved as major decision makers and actors in planning and implementing efforts aimed at solving problems they perceive as important. This broad-based, interactive approach has proven essential in any setting, but especially so in rural areas where outsiders are typically seen as passers-through, insensitive to the facts of rural life and having no stake in the community's future. Rural schools are not just scaled-down urban schools, but distinct educational environments with unique strengths and weaknesses. In stressing the need to respect "the primacy of local circumstance," Jonathan Sher observes that "any reform strategy that seeks to circumvent local traditions, values, beliefs and capabilities, rather than building on them, is bound to fail."

Capitalizing on Local Strength. Over the past century rural school improvement in America has focused not on creating better rural schools, but rather on the "wholesale urbanization of such schools." "Rural" has connoted lack of culture, rather than a viable alternative to the urban-industrial culture. But with more precise knowledge about rural schooling available from recent research, together with the apparent failures of our large urban schools, the traditional view of rural education as the "poor country cousin of the public school system" is giving way to a growing realization that small rural schools have unique advantages as well as deficiencies. The lack of bureaucratic superstructure; the less formal and more personal relationships among students, staff, and parents; the prominent place rural schools occupy in the community; the less pressured environment and more direct communication-- all result in an inherent flexibility, greater individualization of learning, and higher levels of student participation in school activities. Thus while helping rural schools compensate for their shortcomings, FWL assistance will also seek to take advantage of their intrinsic strengths.

Promoting Self-Renewal. School improvement is a continuous process, not an occasional or special one-shot event. Successful change efforts must ensure that sufficient expertise and support remain in the local school or district to sustain committed ongoing effort. This is particularly true for rural educators. Thus a primary aim of FWL will be to strengthen the ability of rural educators to bring about progressive self-improvement, by helping them develop the spirit and skills of inquiry, and by supporting self-renewal through long-term collegial relationships. We will particularly seek opportunities to foster comprehensive rather than piecemeal planning. The ultimate aim is to leave a legacy of not only better practice, but better capacity to improve practice on a continuing basis.

Building Linkages and Networks. An essential part of such capacity-building is helping rural schools link up with other schools, districts, and a variety of agencies to maximize resources through the ongoing exchange of ideas, information, and support. At the local level this means increasing collaboration among colleagues by building on one another's experience; strengthening and expanding the bonds between school and community by forming partnerships with business; and utilizing resource people to enrich the regular program by seeking the services that are available. Regionally it means tapping into existing networks and establishing new ones in order

to gain access to current information, find out what instructional resources are available, and determine how to go about getting support services.

Activities of the Rural Schools Assistance Program

Since its inception in 1987, the FWL's Rural Schools Assistance Program has carefully designed activities to respond to the priorities of the region. The following are brief descriptions of these activities. (For more detailed descriptions, see Rural Schools Annual Reports—Chow, et.al. 1988, 1989.)

- FWL and the California State Department of Education have co-sponsored a California Science Implementation Network (CSIN) to train regional staff developers and science mentors to help rural teachers develop a balanced, well-aligned K-6 science curriculum that meet the state's science mandates.

- In Nevada, FWL staff helped build a network of organizations and staff who are committed to helping rural, small schools meet the recently-adopted statewide graduation requirement in Arts and Humanities. The network consists of the State Department of Education, the University of Nevada at Reno, the Nevada Humanities Council, the Nevada Arts Committee, Northern Nevada Community College, and teachers and superintendents from the rural and isolated districts in the state. Together, the network provided training for teachers from Nevada's 17 smallest high schools and distributed resource materials and lesson plans to participants throughout the state.

- In Utah's vast Great Basin region, students attend 13 of the most isolated rural schools in the state. In these remote communities, where one or two teachers often teach all grade levels in a K-10 school, it is virtually impossible to provide the full range of courses students need for graduation or college entrance. To help remedy this problem, FWL and the Utah State Office of Education have been working collaboratively with four school districts to share teachers across schools and districts through the use of distance learning technology. An

audiographics system enables districts to offer courses such as biology, geometry, and French to students in these Great Basin schools.

- FWL has been helping economically depressed rural school districts in California's Imperial County to develop training programs for teams of administrators and school staff aimed at improving Chapter 1 programs for rural students potentially at risk of failing. Through workshops and follow-ups, FWL staff trained school staff to make fundamental changes in Chapter 1 services in these rural districts.

- In partnership with the Arizona Department of Education, FWL assisted school districts in developing pilot projects and cooperative staff development networks for K-3 at risk students. In addition to workshops for rural educators, FWL will develop and distribute information about exemplary literacy projects for at-risk students.

- With Far West help, Lander County School District in Nevada developed its first written curriculum to respond to the state curriculum framework. FWL worked with the superintendent, the principals of Battle Mountain's two elementary, one middle, and one high school and with teachers on elementary and secondary curriculum development committees to put together a complete science K-12 curriculum. As a result, the district curriculum committee is extending the curriculum in Language arts, math, social studies and technology. Furthermore, the Lander County model is being used to develop and revise K-6 curriculum in neighboring Lincoln, Pershing, and Churchill Counties.

- Far West staff helped San Benito High School District, located in California's rural central valley, implement a program to prevent dropouts and reduce the number of students who fail. The only high school in the county with students from eight feeder schools, San Benito keeps back 15-20 percent of its freshmen each year because of poor performance. To reduce these numbers, FWL assisted San Benito in piloting a program aimed at helping entering freshmen make the transition by improving their study skills, personal goal setting, and decision-making. FWL staff monitored the program and shared information about the approach and its results with administrators and counselors from neighboring districts.

- In Utah, FWL assumed a strategic planning role for the State Office and the four Regional Service Centers which provide services to the state's rural schools. FWL conducted interviews with rural superintendents and hosted statewide conferences to define the priorities and mission of regional service centers. As a result, plans and concept papers for Utah's service centers have been developed and a proposal for funding the "Center for Educational Partnership" is being developed.

- A key activity of this program is disseminating information to the region's rural schools. During the past three years, we hosted a regional conference in Tempe, AZ on Rural Schools: Looking Ahead to the Year 2000. The conference featured three strands of presentations: restructuring, staff development, and technology applications for rural schools. In addition, staff made numerous presentations and conducted scores of workshops in connection with particular service projects. Finally, we developed and distributed the following documents and products.

Document/Product	**Copies distributed**
Rural Report - 6 issues	18,000/issue
Knowledge Brief: Alternatives to School District Consolidation (1990)	1,000
Knowledge Brief: Preparing Teachers for Rural Teaching (1990)	TBD
Knowledge Brief: Strategies for Increasing Instructional Time (1990)	TBD
Knowledge Brief: Promising Non-Graded Elementary Practices (1990)	TBD
Promising Programs and Practices: A Sourcebook for Rural Educators (1989)	300
Principles of Successful Chapter 1 Programs: A Guidebook for Rural Educators (1989	760
Audiographics Distance Learning: A Resource Handbook for Educators	TBD
Arts and Humanities Instructional Units (1988)	60
Science Implementation Casebook (1990)	TBD
Conference Proceedings: Looking Ahead to the Year 2000 (1989)	450
Science Curriculum Framework -Nevada (1989)	250
Rural Schools in Arizona, California, Nevada, and Utah: A State Profile (1989)	660

III. BENEFITS AND EVIDENCE OF IMPACT

The Laboratory's Rural Schools Assistance Program has provided opportunities for rural schools in the region to learn about new ideas and promising practices, to participate in professional exchanges and networks, and to work collaboratively to plan and implement improvement activities. As technical assistance provider, the Laboratory's role is one of convener, catalyst and technical advisor to rural schools and rural agencies in efforts to pool resources, ideas and expertise, and direct these towards accomplishing common or compatible goals. One measure of our success is how participants in rural improvement consortia assess the effects of our contributions. Our third-party evaluation (Schneider 1990) addressed these issues through extensive interviews with rural administrators and teachers in the region. Findings are incorporated in the following account of the effects of the Rural Schools Assistance Program, and summaries of interview appear in Appendix A.

Utah's Great Basin Distance Learning Project

The project has accomplished what it set out to do: to demonstrate the viability of using distance learning technology to offer coursework to students in remote areas. Through the audiographic system, districts in the northwest corner of Utah have been successful in offering a variety of courses (biology, French, technology, advanced math, English) to small and remote sites, such as Bear River, West Dessert, Park Valley, and Grouse Creek. The audiographic system is attractive in part because it is affordable. But it also allows the local schools to retain control over course content, in contrast with other systems that rely on courses from outside vendors.

A distance learning project can't be implemented overnight. Over a three-year period, the laboratory helped the schools install the equipment, test the phone lines, and train the teachers to use the equipment and to use appropriate instructional techniques for engaging students at distant sites. The State Department provided funding to purchase the extra equipment and the districts released teachers to develop coursework. Over time, participants

were able to work through technical difficulties such as poor audio quality as well as administrative difficulties such as scheduling conflicts between sending and receiving sites. Teachers and principals agree that throughout the process the Laboratory enabled continued success. Typical of their comments to evaluators was, "Without (FWL) help we couldn't have worked through the myriad of problems we encountered." Comments from superintendents were equally positive. They rated the quality of FWL service as "excellent" and called the Laboratory's involvement "essential".

The audiographic system continues to operate in Great Basin schools. There are indicators that students are learning from distance learning classes. (See Appendix B) Districts now have the capacity to expand its use, both by adding more student courses and by developing other administrative and staff development applications. For example, staff development workshops and seminars as well as various kinds of conferences can be conducted on the system, thereby reducing person-to-person meetings and saving considerable travel time and cost.

To enable other districts in the region and nationally to learn about audiographics, the Laboratory has conducted eight regional and national demonstrations of the system. In addition, a Resource Handbook providing essential information on how to plan and implement an audiographic system is in the final stages of development and production.

Improving Chapter 1 Rural Schools Programs for Rural Students

To help rural schools improve services to at-risk students, the Laboratory initiated its Chapter 1 rural schools project. Work began in 1988 in Imperial County, CA, an economically depressed area bordering Mexico and including 16 districts whose student enrollment is predominantly poor and Hispanic. First we developed and delivered n inservice program for Chapter 1 coordinators and curriculum specialists consisting of a series of workshops and follow-up consultations. Participants included staff from 10 of the 16 districts in the county. Overall, they felt that "the training helped us understand the Chapter 1 improvement process and gave us specific ways to improve and re-vamp our programs". (See Appendix C for summaries of workshop evaluations). Over time, schools in the county reported implementing a number of changes in the areas of

early intervention, parent involvement, evaluation, teacher accountability, effective use of time and procedures for exiting the program.

The success at Imperial County led to refinements in the workshops and consultations, which in turn were further field tested in follow-up workshops in Tehema and Napa Counties, CA. The laboratory is currently preparing to develop the program further and use it as a staff development model in other Chapter 1 rural sites in the state.

A by-product of this project is *Principles of Successful Chapter 1 Programs: A Guidebook for Rural Educators.* Besides featuring five principles for designing effective Chapter 1 programs for rural students, this publication includes three in-depth cases of successful Chapter 1 school districts. Since its issuance in December 1989, the guidebook has been in steady demand in the region and nationally.

Implementing Promising Strategies for K-3 At-risk Students

This project is an outgrowth of Arizona's initiative to reduce the number of at-risk students by emphasizing interventions in the early elementary grades. Working closely with State Department staff, the Laboratory engaged in activities which focused on training rural teachers to develop and implement performance-based instructional units in language arts, assisting rural schools to develop appropriate intervention plans, and supporting a network of rural teachers and principals to develop and conduct collaborative staff development activities. Workshops and consultations conducted by the laboratory staff and consultants were rated positively by participants as well as by State Department staff.

As a result of working with rural teachers and principals in the state, the Laboratory is in the final stages of producing two Knowledge Briefs which describe promising early intervention practices. These briefs will focus on the topics of increasing instructional time in elementary schools and promising non-graded elementary practices. The products will be disseminated to Arizona participants as well as to rural educators in the three other states in the region.

California Science Implementation Network (CSIN)

Organized by the State Department of Education and supported by the Laboratory's Rural Schools Assistance Program, CSIN is a statewide network of staff developers and mentor teachers aimed at helping elementary teachers develop a well-aligned K-6 science curriculum that meet the state's science mandates. Because rural schools may benefit most from this network, the Laboratory is helping them find the means to take part. Participation in CSIN includes summer workshops and follow-up consultations throughout the year. In addition, the Laboratory is working with all CSIN participants to document the program by creating first-person narratives or cases detailing their successes as well as failures. Case writing gives teachers the chance to reflect on their work. (see Appendix D) It also produces a body of knowledge useful to others who are implementing changes in teaching science.

CSIN staff at the State Department and in rural County Offices agree that "the inclusion of rural schools would not have been possible without Far West support." Rural teachers they report can now be among "the first in the change pipeline instead of receiving help last because of their geographic isolation and size." Staff also indicated that the "casebooks which showcase science implementation and science teaching in real life situations would not have been written" without FWL's leadership in the effort.

Rural teachers and staff developers report being profoundly helped by the CSIN experience. One teacher noted that "CSIN has changed what I do in the classroom. I now look at what I do more professionally." Another mentor teacher commented that she has "incorporated into my science teaching a variety of units we got through CSIN training. Furthermore, my inservice training has affected all science teachers in the district."

Not only are CSIN's rural teachers receiving training to improve their science instruction, but they are no longer isolated from ideas and resources. Now they can regularly participate in exchanges within this statewide network of science teachers and professionals.

The Utah Rural Education Service Center Design Project

This design project grew from Utah's need to examine its services to rural schools in order to determine what additional services were needed and how best to develop and deliver them statewide. The Utah Office of Education and the state's four existing Regional Service Centers—which have long jointly provided rural schools services engaged FWL to lead them through a process to begin designing a cohesive statewide service delivery system for rural schools. The Laboratory conducted needs assessment interviews with rural superintendents, hosted statewide stakeholder conferences and seminars with educators, key policy makers and legislators, and offered resources and expert consulting help.

Feedback from superintendents and service center directors has been uniformly positive. Our third-party evaluation indicated that all parties found FWL services highly beneficial. They appreciated the "quality of information generated" and report that as a result of FWL's work, the centers now have "direction, a vision, and a mission statement as to where we're at and where we should be going."

Overall, the project raised statewide concerns about the need to develop a more cohesive and streamlined service delivery system for rural schools. As one center director noted, "a lot of people are supporting the concept of a service center now." As one direct result, Service centers were able to convince the state legislature in 1989 to increase their funding so that they could hire technology staff. Plans are now being developed to ask for additional funds to support curriculum specialists at the service centers. Moreover, six rural districts in norther Utah has formed a consortium to develop plans for a fifth service center in that region of the state.

Staff Development for Arts and Humanities

The Arts and Humanities Project in Rural Nevada was developed collaboratively by FWL and the State Department of Education in response to a recent state mandate requiring that by 1991 every high school graduate must complete a year of Arts of Humanities course work. One way for districts to satisfy the letter of the law is to integrate Arts and Humanities instruction into

existing courses and submit these course descriptions to the state department for approval. However, rural teachers who teach multiple grades and multiple subjects not only lack the time to plan and implement such integration, but typically have little or no training to do so.

Working with resource agencies such as the University of Nevada in Reno (which granted course credit), the Arts Council and the Humanities Council (which offered staff expertise in the content areas), FWL and the State Department staff recruited rural teachers from some of the most remote and isolated schools in the state and offered three workshop series. The workshops helped teachers develop a curriculum framework, assemble a rich stock of instructional resource materials, and learn interdisciplinary strategies for using them. Sessions were consistently judged to be highly successful, all participants reported finding ways to integrate arts and humanities into their teaching. As a result of two years of working together, state agencies in the Arts and Humanities, the university, the state department, several school districts and the participating teachers in rural schools are forming an informal consortium to continue promoting staff development for integrating Arts and Humanities into the regular curriculum.

Currently, 10 of the 17 districts have an integrated Arts and Humanities program; others are in varying stages of program development. In our third-party evaluation, State Department staff stressed that the course wouldn't exist without FWL's help and coordination. Participants agreed, particularly noting FWL's role as the catalyst for the consortium. The consortium, they felt has "raised consciousness about the need for and feasibility of integrating Arts and Humanities into the curriculum" and can now "sustain the momentum" of the project.

District-Wide Curriculum Planning Project

The project started in rural Lander County, NV where in 1987 laboratory staff developed a process to work with and train a curriculum committee including both elementary and secondary teachers who were preparing the district's first K-12 science curriculum. After a year's work, the committee has created an articulated science curriculum—one continuous for each grade, with goals and objectives for each level. Teachers were elated about the experience and energized by the product they had produced. "We now know better what teachers should do at

each grade level and what our students ought to know at each grade level," noted one committee member. Because the curriculum guide was written by district teachers, not outsiders, committee members assert that "it does not stay on the shelf. We pull it out and use it often." Furthermore, the guide serves as a tool for informing all new teachers in the district about the content they are expected to cover.

The science curriculum development activity proved so rewarding that Landers Superintendent and curriculum committees proceeded to tackle other subject areas during the past two summers. With FWL support they completed district-wide K-12 curricula for math, language arts, physical education, social studies, arts and humanities, and technology. All teachers in the district were involved.

Lander's curriculum writing activities have caught the attention of other rural Nevada districts interested in developing more articulated curricula. Over the past year, Pershing, Lincoln, and Churchill Counties have sought FWL's assistance. Each is now organizing a district-wide committee with a plan to follow the Lander model toward streamlining their curricula.

IV. FUTURE PLANS AND ACTIVITIES

Some of the major demographic shifts in the western region which pose enormous challenges to the region's schools are rapid growth in student enrollment, particularly minority and limited English proficient students, increasing rates of poverty and homelessness, and a projected shortage of teachers. For rural schools, these challenges are almost overwhelming as they struggle to make do with limited staff and shrinking resources.

The Laboratory has reaffirmed our commitment to assist rural schools in the region. Our recently submitted proposal to OERI to continue to operate as a regional education laboratory in the western region contains strong programs and activities which address rural school needs. These programs focus on strengthening rural staff development capacity, exploring school-community linkages, developing rural school improvement models, and assisting rural schools to respond to school improvement mandates. (See Far West Laboratory Technical Proposal: Western Regional Educational Laboratory, 1990).

Over the duration of the next contract (1990-1995) and beyond, the Laboratory will continue to provide fresh ideas and promising rural practices; we will engage our rural partners and collaborators to pool limited resources, share expertise, and direct them towards accomplishing compatible improvement goals. Our commitment to rural schools is for the long term and our regional collaboratives with rural schools and rural agencies include built-in opportunities for follow-through, trouble shooting, and corrective actions.

In addition to our OERI plans, the laboratory is continuing to seize opportunities to increase our rural services in the region by exploring additional support from regional and national sources and collaboratives. In delivering services to the region, the laboratory will draw heavily on the R&D knowledge base and on information about exemplary practices generated by ERIC, NDN and other national agencies We will seek collaborative working relationships with regional service agencies such as the Rural Chapter 1 Technical Assistance Center and Project LEAD in each of the states in the region.

Finally, the Laboratory is committed to working closely with OERI and other regional educational laboratories to state the case for support for rural schools, to raise the level of awareness about the condition of rural schools in the nation, and to demonstrate through the Rural Initiative that technical assistance external to the rural schools can and does make a difference. What is needed is more focused national attention and increased investment in research, development, and dissemination support in order to improve educational equity and quality in the nation's rural schools.

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Appendix A

Rural Schools Projects Participant Interview Evaluation Report

Woodside Research Consortium

Far West Laboratory's Rural School Projects Participant Interview Evaluation Report

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Summary of Interviews: Great Basin (Utah) Distance Learning Project

The Utah interviews consisted of four tele-teachers, one school principal, one district administrator, and two district superintendents. These interviews represented the Box Elder and Tintic School Districts as well as Box Elder, Tintic, and Bear River High Schools.

All interviewees expressed positive perceptions of Far West Labs' involvement in the Distance Learning Project. The prevailing opinion was that without Far West Labs the project would not have even existed. This belief was held by administrators and teachers alike.

However, the teachers and administrators were not equally aware of Far West Labs' total involvement. The teachers mostly mentioned the in-service training and equipment they received. Mr. George Haney mentioned that during the in-service training he learned teaching strategies to use when the learning actually takes place in another location.

Administrators were especially aware of grant writing assistance. Most administrators mentioned funding as a major part of Far West Labs' involvement. They stated that Far West Labs also completed a follow-up study of the project's progress, making some suggestions as to how they could meet the needs of the students even better. Bob Jensen and Rob Brems also mentioned that Far West Labs assisted them with a presentation at the Small Schools Conference in Arizona.

Overall, Great Basin Distance Learning participants were pleased with Far West Labs' involvement in the Project. Mr. George Haney, a teacher, stated, "I would like to see Far West Labs be able to reach out and help a lot more people in these outlying areas". Dr. Fred Openshaw, District superintendent was pleased with the quality of learning the students involved in the project received, he said, "It appears that the quality of instruction and the quality of learning is about the same (as in the classroom learning) and that's exciting".

Summary of Interviews: Improving Chapter 1 Programs for Rural Students

The Rural Schools interviews were conducted with 13 administrative personnel and 8 classroom teachers representing school districts in Long Beach, Calipatria, Calexico, Brawley and El Centro, CA.

All interviewees expressed positive perceptions of Far West Lab's involvement in the Rural Schools Evaluation Study, commending the direct involvement of administrative personnel in the program, which they believed opened communication among participants at all levels, in particular, among administrators and classroom teachers.

Agreement was high that FWL "understood their circumstances" and made participants feel "comfortable and confident" about discussing their situations. Participants generally felt that their (rural) problems are rarely addressed, they have limited access to resources, and outsiders do not appreciate the multiple commitments expected of personnel in these schools. They were further concerned that outside experts frequently treat them as "country yokels" rather than "professional educators." By contrast, FWL respected their experiences and perspectives and worked very hard to accomodate their particular needs.

Though state guidelines dictate the foci of their programs, FWL helped clarify issues/strategies/approaches so that participants could go about meeting the state's demands. Through the information provided by FWL as well as the numerous resources FWL personnel accessed, participants were able to implement a number of changes in their school districts re: program improvement, early intervention, parent involvement, evaluative processes, teacher accountability, effective use of time, procedures for program exit, etc. In cases where FWL had no answers, participants were stimulated to find answers on their own.

Some appreciated this freedom, others would have liked more explicit models to work from or to hear from personnel in other districts who had implemented programs successfully. Due to their isolation, which tends to hinder getting the assistance they need to address their unique needs, these participants would have liked FWL to focus on individual situations instead of general strategies and activities. However, all agreed that FWL group had little latitude given that the state guidelines were unclear at the time of service. Participants did appreciate having opportunities to discuss their situations. .

Several discrepancies surfaced re: impressions of follow-up on the part of FWL. While most felt communication was good between FWL and participants, others were unclear whether or not they were at liberty to contact FWL for assistance after the service. According to one participant, "the beginning was fantastic, we felt very supported. The follow-up was weak." In some cases participants were told there would be further contact, that they would be on a mailing list, but received only one booklet in the mail.

All viewed the experience as valuable and wished they had had more time. In the words of one participant, "a day and a half seemed rushed." All felt personally and professionally rewarded and hoped to have more opportunities for this kind of service.

Summary of Interviews: Arizona Literacy Project

The project took different forms in each of the three years of its implementation. During the first year teams of teachers developed curriculum units. In the second year a cadre of teachers was trained to teach other teachers the whole language approach. In year three workshops were held on such topics as the whole language approach. Of the ten respondents interviewed, six were participants in third year activities. Although respondents were familiar with FWL, few had much knowledge concerning the extent of FWL's services. Therefore, Nikki Filby suggested that interviews for these individuals focus more on reactions to the project than on FWL roles specifically

Most respondents were satisfied with the services provided by Far West. All felt that Nikki did an excellent job as a facilitator. One respondent specifically noted how Nikki's questioning strategies enabled her to clarify her own thinking.

One recurrent theme was that the participants were grateful the workshops were held within a forty-five minute drive rather than two to four hours they normally spent traveling to professional development opportunities. Participants commented that they were provided the forum to share their ideas.

Summary of Interviews: California Science Implementation Network

This set of interviews consisted of the California State Science Unit manager (Tom Sachse), CSIN's executive director (Cathy DiRanna), Shasta County's Science Resource Specialist, and seven teachers and/or curriculum coordinators in rural counties in northern California. All were participants in the California Science Implementation Network, which is where they came into contact with FWL.

Tom Sachse and Cathy DiRanna made it very clear that the rural teachers in the project would not have been included without FWL's support. Without the leadership and guidance of Linda Nelson and other FWL project consultants the development of the two project casebooks was not possible (one is currently ready for publication and the second is being completed). FWL was an integral part of the success of the project.

The teachers all spoke of FWL's involvement in putting together case books of curriculum for mentor and intern teachers. They also mentioned help they received from FWL in the form of funding, to attend workshops and for various other needs.

The teachers were in general highly impressed with the services rendered by FWL, and all mentioned Linda Nelson's "pleasant, helpful work with us." Several stated that the financial assistance FWL provided enabled them to do things (such as attend conferences) that they would not otherwise have been able to do.

Several of the teachers had seen previous case books from FWL, and stated that they were very interesting and helpful as a tool for self-reflection. Several of the teachers "hope to utilize the case book in training." One teacher commented that she has already incorporated a variety of units she gained from her participation in CSIN into her teaching, and has given inservices for the teachers in her district about them.

Most teachers expressed the hope that FWL would continue to stay involved with rural schools, particularly in the areas of technology and telecommunications, which could help them overcome their isolation.

Summary of Interviews: Utah Regional Service Center Development Project

This set of interviews consisted of the directors of four of the regional service centers serving rural school districts in Utah, an adminstrator with the Utah state office of education, and a consultant from the University of Maryland who was involved in some of the design work on the project.

In every case, interviewees expressed considerable satisfaction with the assistance Far West Labs provided in articulating a mission statement and direction for the regional service centers in Utah. The consensus opinion was that the meetings, workshops, and conference organized by FWL have been extremely helpful in helping the centers clarify their purpose and rethink their goals.

Several of the directors mentioned that, due to the help of FWL, funding for a technology person at each center has been approved by the state legislature. For the upcoming year, information gathered by FWL will be used to request curriculum specialists at each service center.

One person (Harold Shaw) requested that FWL continue to stay involved, and help the service centers actually implement some of the changes in practice suggested; to "see us through the entire process."

Summary of Interviews: Nevada Arts and Humanities Project

Interviews for the Arts and Humanities project were secured from two state administrators, a curriculum specialist, a Reno professor, and four teachers from various districts throughout the state. All of the participants interviewed were pleased with the project. They felt it was indeed a worthwhile learning experience. They were certain the project would not have run as smoothly without the help of Far West Labs.

Nevada's graduation requirements were recently amended to include an Arts and Humanities course. Administrators from the State Department enlisted the help of Far West Labs in creating an integrated Arts and Humanities course. Far West Labs facilitated three 2-day conferences and a summer institute all which related to Arts and Humanities. They also participated in an Arts and Humanities Awareness presentation at a Social Science Conference in Reno. The resulting Arts and Humanities course was integrated and multidisciplinary. Mike Tremayne, a teacher involved in the project, remarked, "We were glad the course was interdisciplinary. We did not want schools just labeling their Band, Music, Literature, and Art classes as an Arts and Humanities course." The resulting course is now being used in several School Districts and High Schools throughout the state of Nevada.

The Arts and Humanities workshops were quite unique and special. The teachers were involved in several real-life experiences. Debbie Zobach, a High School teacher, really enjoyed the workshops. She vividly remembered when they dressed as pioneers, ate breakfast chuck-wagon style, and were entertained by Basque dancers, all while learning more about their own Nevada History. She and Dr. Steve Lafer really appreciated the video tape materials Far West Labs made available to them. These captivating and real-life materials were a welcome addition to the course. Debbie Zobach noted that, "When you can actually participate, it is much better than opening a book and reading about it".

The resulting curriculum was also quite special. Phyllis Darling, who was also instrumental in creating the curriculum, stated, "The Nevada Arts and Humanities program is now viable. Before it was scattered and up to the meager resources of the teacher, but now its comprehensive and well organized." The curriculum was chronologically structured. It included a wide range of subject matter areas: Visual Arts, Literature, Dance, History, Law, Religion, Philosophy, Painting, Sculpture, and Drama. The curriculum consisted of several units which can either be taught in a full, comprehensive Arts and Humanities course or integrated into an existing course that focuses on one subject area. Phyllis Darling brought the curriculum to Clark County School District. Clark County School District is the largest in the state. It services approximately 100,000 children.

Everyone involved seemed well pleased. They mentioned several times how the Arts and Humanities course would not exist without the help of Far West Labs. Far West gave them the materials for the course. They trained the teachers, so that they can now integrate one or several units from the curriculum into an existing course. Alternatively, they can use the curriculum to teach a comprehensive, integrated Arts and Humanities course. High School teacher Linda Hill was "Very pleased with the Arts workshop which included material on the Navajo Indians, Frank Lloyd Wright, and Picasso." She remarked that, "Continuing education experiences like this really help rural teachers keep abreast of their field".

It seemed the interviewees could not make enough positive comments about Far West Labs. Phyllis Darling "Enthusiastically recommend(s) Far West Labs' work, as (she) certainly benefited

from them". Mike Tremayne said, "Any teacher education project that Far West Labs is involved in has a great deal of credibility to me. Everything of theirs that I've been involved in has been really, really good." Debbie Zobach truly enjoyed the project workshops. She was excited that she got to make a presentation on Leonardo DiVinci at the last workshop meeting. If asked to attend any other Far West Lab functions she would, "jump at the chance."

Summary of Interviews: Lander County Curriculum Project

The Lander County interviewees included the District Superintendent, the Elementary and High School Principals, an Elementary and a Middle School teacher, and the Science Coordinator for the District. All of the interviewees expressed enthusiastic satisfaction with the services provided to them by Far West Labs.

Basically Far West Labs gave Lander County assistance in creating their first, formal, written Science curriculum. This formal curriculum had continuity and consistency for all grade levels, kindergarten through the High School years. It allowed different teachers throughout the district to be confident that the information they were teaching in their classes was comparable to the information being presented in all other classes of the same class level in the same subject area.

District Administrators and teachers alike, made it quite clear that they could not have created the curriculum without Far West Labs' assistance. Pat Brickley, a Middle School teacher, said it was obvious that "Far West Labs spearheaded the entire curriculum project". Far West provided Lander County with a curriculum format to help them establish goals and objectives about the types of skills needed for their Science curriculum at each grade level. This curriculum format also helped them to create an outline and establish suggested reading lists. Before the Far West Project Lander County did not have a written curriculum. Now it has an exemplary, continuous, well-planned Science curriculum and is in the process of creating a written curriculum in other subject matter areas.

Far West Labs provided in-service training for target teachers at the beginning of this project. Far West brought in consultants from the various curriculum areas who made presentations and displayed materials. Sylvia Blake, an elementary school teacher, remarked that she learned information about Science that she did not already know. She found Project Wild and Science on a Shoe String to be very helpful materials.

After the in-service, the teachers of Lander County created their curriculum with the materials and guide given to them by Far West Labs. Consultants from Far West Labs, like Linda Nelson, facilitated this process by attending some of the meetings, providing additional materials, and making helpful suggestions. Dan Ormand commented that he was glad they produced a "teacher-based curriculum". He appreciated the fact that his opinions and ideas, as well as those from other teachers, were taken into consideration in the creation of the curriculum. He believes that since teachers had lots of input into creating the curriculum, "(It) does not stay on the shelves. We pull it out and use it often". The Science curriculum was viewed as a success by all involved. This curriculum met the state requirements for both Nevada and California. As a result, it is now used as the prototype Nevada Science Curriculum.

Because of the Science curriculum success, the idea of a written curriculum expanded to other subject areas, like Math and Social Studies. They also created a computer skills curriculum with specific objectives and skills for each grade level. Fred Huckaby, the High School Principal, remarked, "We can now provide in-coming teachers with a guide. Before we were unable to give them specific training, but now we can train them before placing them in a classroom without any assistance."

Everyone was very pleased with Far West Labs' assistance. Leon Hensley, Superintendent of the District, said, "Given the opportunity to work with Far West Labs we would do it again." Middle School teacher, Pat Brickley was "looking forward to the time when (they) get back together to

review and analyze the progress (they) have made". Dan Ormand was grateful for the support given to Lander County by Sharon Pia and especially Linda Nelson.

Appendix B

Student Evaluations of Distance Learning

Student Evaluations of Distance Learning (DL)

Thirty-three high school students from Utah's Great Basin region took distance learning classes in French, English, math and principles of technology at four separate sites in 1989. Their composite ratings for the classes are as follows.

Student Assessment of Distance Learning Classes
N=33

5 = Agree; 4 = Somewhat agree; 3 = Neither agree or disagree; 2 = Somewhat disagree; 1 = Disagree

	5	4	3	2	1
I feel I am learning from the DL class.	57%	9%	14%	4%	15%
My DL class functions with no more problems than my other classes.	38%	25%	5%	15%	15%
I think other DL classes should be added.	45%	16%	22%	13%	3%

Over 50 % of all students agree or somewhat agree with statements about the value of distance learning. Variations across sites and subject matter exist, suggesting a strong teacher factor. That is, good teachers produce good teaching; poor teachers produce poor teaching.

Appendix C

Chapter 1 Workshop Evaluations

Chapter 1 Workshop Evaluations

Workshop evaluations from Imperial County staff are summarized below. (5 = positive; 1 = negative)

Workshop 1 Feb. 16-17, 1989 N = 32

	5	4	3	2	1
1. Were the objectives of this session clear?	11	14	5	2	0
2. How well was the presentation organized?	16	12	4	0	0
3. How helpful do you think the presentation will be to your work?	16	9	7	0	0

Workshop 2 May 23, 1989 N= 25

	5	4	3	2	1
1. Were the objectives of this session clear?	14	7	2	0	0
2. How well was the presentation organized?	11	11	2	0	0
3. How helpful do you think the presentation will be to your work?	13	9	2	0	0

Workshop 3 May 24, 1989 N = 56

	5	4	3	2	1
1. Were the objectives of this session clear?	20	15	10	5	5
2. How well was the presentation organized?	24	11	12	6	2
3. How helpful do you think the presentation will be to your work?	10	12	20	6	6

Appendix D

CSIN Teacher Responses on Reflective Writing and Case Development

CSIN Teacher Responses on Reflective Writing and Case Development
N = 92

1. Writing a case has raised my awareness of the complexity of my work.

% Disagree	% Agree
11	73

2. Writing a case has given me a stronger sense of myself as a professional educator.

% Disagree	% Agree
3	89

3. Writing about my work has helped me think about my work differently.

% Disagree	% Agree
8	84

4. Using my case to prompt discussions with colleagues has helped me think about my work differently.

% Disagree	% Agree
8	59

5. As a result of being in this project, I share thoughts about my work more often with colleagues.

% Disagree	% Agree
14	65

6. Writing about my work has changed the way I do my work.

% Disagree	% Agree
27	30